

Electric Pump Fed Propulsion for a Liquid Bipropellant Mars Ascent Vehicle, Phase I

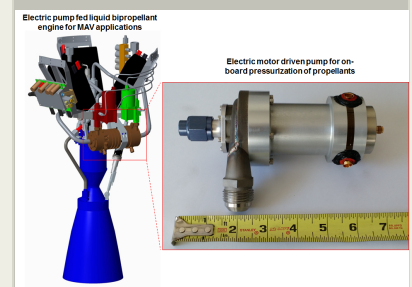
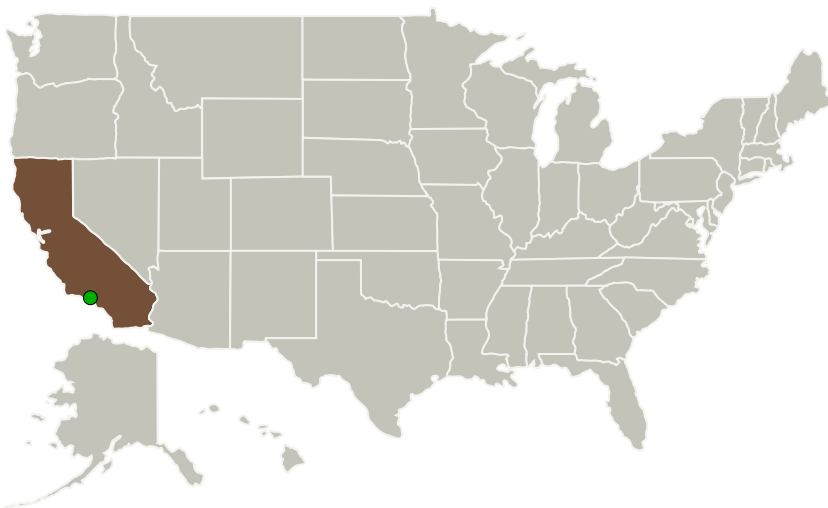
Completed Technology Project (2016 - 2016)



Project Introduction

To-date, the realization of high-performance liquid bipropellant rocket engines for ascent vehicle and sample return applications has largely been hindered by the inability to obtain "on-board" pressurization through a light-weight and low-complexity pump. Ventions seeks to fulfill this critical need by offering low-risk, electric-motor driven pumps for a MON-30 / MMH liquid bipropellant engine in the Mars Ascent Vehicle for significant performance, mass and packaging advantages over pressure-fed or solid / hybrid propulsion systems.

Primary U.S. Work Locations and Key Partners



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Organizations Performing Work	Role	Type	Location
Ventions, LLC	Lead Organization	Industry	San Francisco, California
● Jet Propulsion Laboratory(JPL)	Supporting Organization	NASA Center	Pasadena, California

Primary U.S. Work Locations

California

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Project Transitions

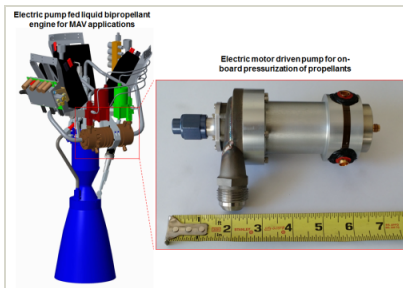
June 2016: Project Start

December 2016: Closed out

Closeout Documentation:

- Final Summary Chart(<https://techport.nasa.gov/file/139702>)

Images



Briefing Chart Image

Electric Pump Fed Propulsion for a Liquid Bipropellant Mars Ascent Vehicle, Phase I
(<https://techport.nasa.gov/image/135193>)



Final Summary Chart Image

Electric Pump Fed Propulsion for a Liquid Bipropellant Mars Ascent Vehicle, Phase I Project Image
(<https://techport.nasa.gov/image/128200>)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Ventions, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

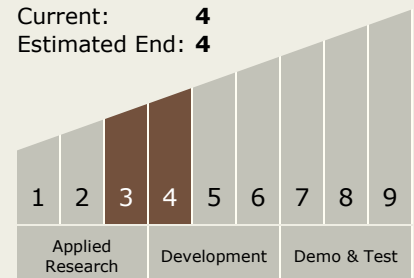
Carlos Torrez

Principal Investigator:

Adam London

Technology Maturity (TRL)

Start: 3
Current: 4
Estimated End: 4



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Technology Areas

Primary:

- TX01 Propulsion Systems
 - └ TX01.1 Chemical Space Propulsion
 - └ TX01.1.2 Earth Storable

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System